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PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant: Jeffrey Rice, et al.

Serial No.: 10/065,639

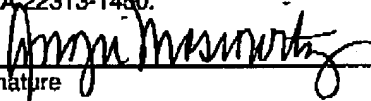
Examiner: Cheryl Ann Juska

Filed: November 5, 2002

Group Art Unit: 1771

For: RECYCLABLE, RUBBER-LIKE THERMOPLASTIC BACKING
MATERIAL USED IN A THROW-IN MAT FOR A VEHICLE FLOOR

Attorney Docket No.: 3707 (LC 0101 PUS)

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Date: <u>May 2, 2006</u>	<u>Angie Moscovitz</u>

CORRECTED BRIEF ON APPEAL

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
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Madam:

The following Corrected Appeal Brief is submitted pursuant to the Notification of Non-Compliant Appeal Brief, mailed April 13, 2006, and allowing thirty days for response. Appellants believe that the foregoing amendment corrects the issues

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listed in Paragraphs 4 and 10 of the Notice that are believed to be defective for failure to comply with 37 C.F.R. 41.37.

I. Real Party In Interest

The real party in interest in this matter is Lear Corporation organized under the laws of the State of Delaware and having its principal place of business in Southfield, Michigan (hereinafter "Lear").

II. Related Appeals and Interferences

There are no other known appeals or interferences that will directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

III. Status of the Claims

Claims 12-17 and 19 and 21 stand rejected in the Final Office Action and are presented in this appeal. A copy of the claims on appeal is attached as an Appendix.

IV. Status of Amendments

An amendment was filed October 27, 2005, within the two-month period so as to invoke an advisory action. The amendment was not entered first because the Examiner believed that the proposed new limitations to the claims raised the issue of new matter.

Further, Applicants arguments were because the Examiner determined that Applicants' arguments were not unpersuasive since they were based on a non-entered amendment and further because the Examiner believed that the Applicants arguments regarding the amount of filler did not exclude the greater amount of filler disclosed in Bell, one of the prior art references.

V. Summary of Claimed Subject Matter

The present invention relates generally to a method for forming floor mats for vehicles and the like, and more particularly to a method for forming a throw-in mat having a rubber-like feel and weight.

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In the preferred embodiment, as disclosed in Figures 2-4 and described in paragraphs [0015]-[0018] of the specification, a throw-in mat includes a primary backing layer having first and second sides thereof. A carpet pile is tufted, or sewn, into the first side of the primary backing layer that is preferably a woven polypropylene or non-woven polyester material.

A recyclable thermoplastic backing material is secured to the second side of the primary backing layer. The recyclable thermoplastic backing material is preferably a recyclable thermoplastic material having the look and feel of a rubber backing. The recyclable thermoplastic backing material is preferably extruded onto the primary backing layer. The recyclable thermoplastic backing material is then heated under pressure to form a desired pattern on the bottom of the recyclable thermoplastic backing material. This pattern can include a number of ribs and grooves to help secure the mat to a carpeted vehicle floor.

The composition of the backing material is preferably based on an ethylene-octene copolymer formed using a metallocene catalyst and other processing aids. The ethylene-octene copolymer is then further processed to form the backing material that is thermoplastic and recyclable. The backing material provides a rubber feeling and weighted material without the additional costs associated with a rubber backing material, costs that include manufacturing costs and recycling costs.

The method for forming the recyclable throw-in mat according to a preferred embodiment of the present invention as claimed in independent claims 12 and 21 is described in paragraphs [0023] through [0027] and Figures 3-5 of the originally filed specification.

Figure 3 and paragraph [0023] describes the process for forming palletized versions of the recyclable thermoplastic backing material that are claimed in independent claims 12 and 21. The starting materials for the thermoplastic backing material used in claims 12 and 21 that is palletized is described in Table 1 and further in paragraphs [0018]-[0021] of the specification. The formed pellets formed according to the method of Figure 3 and described in paragraph [0023] are then

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introduced to an extruder in Figure 4 and paragraph [0024] and coupled to the primary backing layer. The coupled backing material is then rolled onto a roller. In Figure 5, and paragraphs [0025-0027], the rolled material is then cut to an appropriate size and placed in a mat press, wherein the rolled and cut material is molded under heat and pressure to allow the backing material to flow to form its desired shape, which may include ribs and grooves. Finally, the shaped throw-in mat is placed into a cold press to cool the material. The throw-in mat may also be subsequently trimmed to a desired shape.

The present invention offers many advantages over throw in mats of the prior art. For example, the thermoplastic backing material of the throw-in mats is recyclable. This limits manufacturing costs in terms of waste removal and can help to minimize raw material costs. Second, the throw-in mats have the look and feel of rubber at a cost savings in terms of manufacture and raw material costs over rubber. Third, the thermoplastic backing material does not require a latex backing layer in order to adhere the backing material to the primary backing layer. Fourth, the method for forming the throw-in mats is relatively easy and cost-effective.

VI. Grounds of Rejection to be Reviewed on Appeal

The following issues are presented in this appeal, each of which corresponds directly to the Examiner's final grounds for rejection and the Final Office Action dated July 6, 2005, and in the Advisory Action dated September 20, 2005:

- (a) Whether claims 12-17, 19 and 21 are patentable under 35 U.S.C. §103(a) over United States Patent No. 6,296,733 to Hudkins et al. in view of United States Patent No. 6,787,593 to Bell et al.?

VII. Argument

THE REJECTION OF CLAIMS 12 17, 19 And 21 UNDER 35 U.S.C. §103(a)

Claims 12-17 and 19 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hudkins et al. (U.S. Patent No. 6,296,733) in view of Bell et al.

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(U.S. Patent No. 6,787,593). Applicants respectfully traverse the Examiner's rejection. Each claim will be addressed separately below:

Claim 12

In the September 16, 2005 Response to Arguments, the Examiner first states that the declaration submitted by Applicants on July 7, 2005 was not commensurate with the scope of the claims in that the claims do not require completely formed nibs that do not break off easily during use. Applicants respectfully disagree. Focusing first on the phrase "completely formed nibs," Applicants note amended claim 12 specifically calls out a plurality of nibs as of the entered July 7, 2005 amendment. Moreover, Figure 2 of the originally filed drawings clearly shows completely formed nibs as reference numeral 26. Thus, the nibs described in amended claim 12 are completely formed nibs. The Examiner's suggestion in her September 16, 2005 Response that claim 12 does not require completely formed nibs goes against the very teachings of the patent as described in the specification and drawings and must not be allowed to stand. Thus, the Examiner's determination that amended claim 12 does not require completely formed nibs is improper and must be overturned.

Focusing next on the phrase "that do not break off easily during use," Applicants first note that amended claim 12 requires that the backing material, which includes a plurality of nibs, be rubber-like. A rubber-like material, in and of itself, implies a material that is bendable and does not break easily as it is bent. As such, Applicants respectfully suggest that the phrase rubber-like implies a material that does not break easily.

The Examiner further has stated that amended claim 12 does not exclude the greater presence of filler found in the Bell reference, and thus the combination of Hudkins and Bell obviates the present invention under 35 U.S.C. §103(a). Applicants respectfully disagree. The composition of the backing material in amended claim 12 is rubber-like and must have melt flow characteristics to achieve completely formed nibs thereon to achieve such a rubber-like state. The Bell reference requires an ethylene-octene copolymer having a melt index between 1 and 10 and a substantial amount of filler in order to achieve sound deadening

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characteristics (i.e. a much greater than any range of filler taught in the present invention). As one of ordinary skill recognizes, the Bell references does not form a rubber-like material. Further, the introduction of this additional amount of filler in Bell would disrupt the flow characteristics of the ethylene-octene copolymer such that they could not form complete nibs as described in the present invention. Moreover, the incompletely formed nibs have a tendency to break off more easily as compared with completely formed nibs. Finally, the highly filled nature of the polymer in Bell affects the mechanical properties of the matting, resulting in nibs would also tend to break off more easily for this reason. Applicants have thus concluded that the polymer described in Bell, in combination with Hudkins, would result in a mat that is not rubber-like in character and further could not be formed with complete nibs from a processing standpoint as in amended claim 12. Further, the Applicants concluded that any nibs that could be formed with the material of Bell would at best be incomplete and would break off easily. This is the substance of Applicants Declaration and the basis of Applicant's argument that Bell does not disclose an ethylene-octene composition cured with a metallocene catalyst that is capable of forming a rubber-like backing material as in amended claim 12 of the present invention. Thus, contrary to the Examiner's determination, amended claim 12 specifically excludes the amount of filler present in Bell. As such, the Examiner has not established the third of three criteria for establishing a *prima facie* case of obviousness under MPEP 2143, namely the Examiner has not established that the combination of Hudkins and Bell teaches all of the claim limitations of amended claim 12. "When the references cited by the Examiner fail to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned."¹ As such, the rejection of amended claim 12 is improper and must be overturned. Reconsideration of claim 12 is thus respectfully requested.

Claim 13

Claim 13 is a dependent claim of claim 12 that further limits the method for forming a rubber-like thermoplastic backing. For reasons stated with respect to amended claim 12, Bell does not disclose an ethylene-octene composition cured

¹ *In re Ochiai*, 71 F.3d 1565, 37 U.S.P.Q.2d 1127 (Fed. Cir. 1995), citing *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

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with a metallocene catalyst that is capable of forming a rubber-like backing material as in claim 13 of the present invention. Reconsideration of claim 13 is thus respectfully requested.

Claim 14

Claim 14 is a dependent claim of amended claim 12 that further limits the composition of the rubber-like thermoplastic backing material to an ethylene-octene copolymer formed using a metallocene catalyst and having a melt index of approximately 25-35 and a density of approximately 0.7 to 1.0. Bell does not teach this melt index range. As such, the Examiner has additionally not established a *prima facie* case of obviousness as required by Section 2143. Applicants further note that the addition of a copolymer having this melt index range was not and likely would not be contemplated in Bell, in that such a range would negatively impact the sound absorbing capabilities in Bell while meeting the demand of balanced properties of impact strength, tensile, elongation, flex modulus and specific gravity and also satisfy the requirements of resistance to cold, mildew fogging and flammability. Thus, for reasons stated above with respect to amended claim 12 and for the additional reasons stated in this paragraph, claim 14 is not obvious over Hudkins in view of Bell, contrary to the Examiner's conclusion. Reconsideration of claim 14 is thus requested for these additional reasons.

Claim 15

Claim 15 is a dependent claim of claim 14 that further that further limits the composition of the rubber-like thermoplastic backing material to also include a second ethylene-octene copolymer formed using said metallocene catalyst and having a melt index of approximately 2-4 and a density of approximately 0.7 to 1.0. For reasons stated above with respect to claim 14, the combination of Hudkins and Bell does not teach a rubber-like thermoplastic backing material that includes an ethylene-octene copolymer formed using a metallocene catalyst and having a melt index of approximately 25-35. Moreover, the combination of Hudkins and Bell does not teach a mixture of ethylene-octene copolymers, one having a melt index of between 25 and 35, the other having a melt index between about 2 and 4, as in claim 15. Thus, for reasons stated above with respect to claims 12 and 14 and for

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the additional reasons stated in this paragraph, claim 15 is not obvious over Hudkins in view of Bell, contrary to the Examiner's conclusion. Reconsideration of claim 14 is thus requested for these additional reasons.

Claim 16

Claim 16 is a dependent claim from claim 13 that further limits the step of introducing a plurality of raw materials to a mixing device and mixing said plurality of raw materials. For reasons stated with respect to claims 12 and 13, Bell does not disclose an ethylene-octene composition cured with a metallocene catalyst that is capable of forming a rubber-like backing material as in claim 16 of the present invention. Reconsideration of claim 16 is thus respectfully requested.

Claim 17

Claim 17 is a dependent claim from claim 16 that further limits the temperature for forcing the recyclable, rubber-like thermoplastic backing material out of a bottom of an extruder to between approximately 165 and 185 degrees Celsius. For reasons stated with respect to claims 12 and 13 and 16, Bell does not disclose an ethylene-octene composition cured with a metallocene catalyst that is capable of forming a rubber-like backing material as in claim 17 of the present invention. Reconsideration of claim 17 is thus respectfully requested.

Claim 19

Claim 19 is a dependent claim from claim 12 that further limits pressing the throw-in mat to desired temperature between approximately 165 and 185 degrees Celsius and limits the pressing time to approximately 20 seconds. For reasons stated with respect to amended claim 12, Bell does not disclose an ethylene-octene composition cured with a metallocene catalyst that is capable of forming a rubber-like backing material as in claim 19 of the present invention. Reconsideration of claim 19 is thus respectfully requested.

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Claim 21

Claim 21 is an independent method claim similar to claim 12 that includes the step of forming a recyclable, rubber-like thermoplastic backing material comprising an ethylene-octene copolymer formed using a metallocene catalyst; wherein said ethylene-octene copolymer formed using a metallocene catalyst comprises a first ethylene-octene copolymer formed using a metallocene catalyst and having a melt index of approximately 25-35 and a density of approximately 0.7 to 1.0 and a second ethylene-octene copolymer formed using said metallocene catalyst and having a melt index of approximately 2-4 and a density of approximately 0.7 to 1.0. Bell does not teach a material having a melt index range of between 25 and 35.. As such, the Examiner has additionally not established a *prima facie* case of obviousness as required by Section 2143. Applicants further note that the addition of a copolymer having this melt index range was not and likely would not be contemplated in Bell, in that such a range would negatively impact the sound absorbing capabilities in Bell while meeting the demand of balanced properties of impact strength, tensile, elongation, flex modulus and specific gravity and also satisfy the requirements of resistance to cold, mildew fogging and flammability. Reconsideration of claim 21 is thus requested for these additional reasons.

VIII. Appendix

A copy of each of the claims involved in this appeal, namely claims 12-17, 19 and 21 is attached hereto as Appendix A.

IX. Evidence Appendix

None.

X. Related Proceedings Appendix

None.

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X. Conclusion

For the foregoing reasons, Applicant respectfully requests that the Board direct the Examiner in charge of this examination to withdraw the rejections and pass claims 12-17, 19 and 21 to issuance.

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Dated: May 2, 2006

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APPENDIX A

12. A method for forming a throw-in mat having a rubber-like feel and weight, the method comprising:

providing a carpet pile sewn through a first side of a primary backing layer;

forming a recyclable, rubber-like thermoplastic backing material comprising an ethylene-octene copolymer formed using a metallocene catalyst;

coupling said recyclable, rubber-like thermoplastic backing material to a second side of said primary backing layer to form the throw in mat, said second side being opposite of said first side;

introducing the thrown-in mat to a mat press;

pressing the throw-in mat at a desired temperature and a desired pressure for a predetermined period of time within said mat press to form said recyclable, rubber-like thermoplastic backing material to a desired shape, said recyclable, rubber-like thermoplastic backing material including a plurality of nibs formed thereon;

removing said throw-in mat from said mat press; and

cooling said throw-in mat in a cold press.

13. The method of claim 12, wherein forming a rubber-like thermoplastic backing material comprises:

introducing a recyclable, rubber-like thermoplastic material comprising an ethylene-octene copolymer formed using a metallocene catalyst to a mixing device;

introducing a plurality of raw materials to a mixing device after the introduction of said recyclable, rubber-like thermoplastic material, said plurality of raw materials selected from the group consisting of a plasticizer, an additive, a thermoplastic additive, and a filler; and

mixing said plurality of raw materials and said recyclable, rubber-like thermoplastic material within said mixing device to form a recyclable, rubber-like thermoplastic backing material.

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14. The method of claim 13, wherein said ethylene-octene copolymer formed using a metallocene catalyst comprises a first ethylene-octene copolymer formed using a metallocene catalyst and having a melt index of approximately 25-35 and a density of approximately 0.7 to 1.0.

15. The method of claim 14, wherein said ethylene-octene copolymer formed using a metallocene catalyst further comprises a second ethylene-octene copolymer formed using said metallocene catalyst and having a melt index of approximately 2-4 and a density of approximately 0.7 to 1.0.

16. The method of claim 13, introducing a plurality of raw materials to a mixing device and mixing said plurality of raw materials comprises:

introducing a recyclable, rubber-like thermoplastic material comprising an ethylene-octene copolymer formed using a metallocene catalyst to a loss in weight feeder;

introducing a plurality of raw materials to a loss in weight feeder after the introduction of said recyclable, rubber-like thermoplastic material, said plurality of raw materials selected from the group consisting of a plasticizer, an additive, a thermoplastic additive, and a filler;

feeding said plurality of raw materials and said recyclable, rubber-like thermoplastic material from said loss in weight feeder to a continuous mixer;

mixing said plurality of raw materials and said recyclable, rubber-like thermoplastic material within said mixer to form a mixture;

introducing said mixture to an extruder;

extruding said mixture in said extruder to form an extruded material;

pelletizing said extruded material with an underwater pelletizer to form a plurality of pellets;

introducing at least one of said plurality of pellets to an extruder;

melting said at least one of said plurality of pellets to form a recyclable, rubber-like thermoplastic backing material; and

forcing said recyclable, rubber-like thermoplastic backing material out of a bottom of said extruder at a desired temperature.

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17. The method of claim 16, wherein said desired temperature is between approximately 165 and 185 degrees Celsius.

19. The method of claim 12, wherein said desired temperature is between approximately 165 and 185 degrees Celsius and said predetermined period of time is approximately 20 seconds.

21. A method for forming a throw-in mat having a rubber-like feel and weight, the method comprising:

providing a carpet pile sewn through a first side of a primary backing layer;

forming a recyclable, rubber-like thermoplastic backing material comprising an ethylene-octene copolymer formed using a metallocene catalyst; wherein said ethylene-octene copolymer formed using a metallocene catalyst comprises a first ethylene-octene copolymer formed using a metallocene catalyst and having a melt index of approximately 25-35 and a density of approximately 0.7 to 1.0 and a second ethylene-octene copolymer formed using said metallocene catalyst and having a melt index of approximately 2-4 and a density of approximately 0.7 to 1.0;

coupling said recyclable, rubber-like thermoplastic backing material to a second side of said primary backing layer to form the throw in mat, said second side being opposite of said first side;

introducing the thrown-in mat to a mat press;

pressing the throw-in mat at a desired temperature and a desired pressure for a predetermined period of time within said mat press to form said recyclable, rubber-like thermoplastic backing material to a desired shape, said recyclable, rubber-like thermoplastic backing material including a plurality of nubs formed thereon;

removing said throw-in mat from said mat press; and

cooling said throw-in mat in a cold press.